

A Precious Way of Life...

For many of us, fishing in cool clear lakes, rivers and streams is one of life's pleasures. Today, these waters are under attack by round goby, ruffe, zebra mussels, purple loosestrife, eurasian watermilfoil... These aquatic invasive species, do not belong in these waters. Many came from Europe and Asia in the ballast waters of ships. These "aquatic hitchhikers" have done irreparable harm to many lakes.

If you've ever been fishing for perch, got a hit on your line and then reeled in a round goby, you know how annoying these invasive species can be. But their impact on fishing goes way beyond annoying—they actually put our waters and native species in serious jeopardy.

It's what you might not see that counts.

The larvae of many invasive species are often microscopic and therefore easy to overlook. These tiny organisms can live for days in a moist environment and will grow into adults that can reproduce and spread, threatening our favorite fishing spots.



Dave Brenner

To find out more, visit these websites:

- Michigan Sea Grant:
www.miseagrant.umich.edu/ais
- Michigan Department of Environmental Quality:
www.michigan.gov/deq
- Michigan Department of Natural Resources:
www.michigan.gov/dnr
- Protect Your Waters:
www.ProtectYourWaters.net

Protect Our Waters



Sea Grant

Be a part of the solution!



Aquatic Hitchhikers



Ann Hruska

Invasive aquatic animals and plants are spreading at alarming rates, and they're spreading by hitching rides with anglers and boaters. Whenever you leave a body of water without cleaning your

recreational equipment, you may be transporting one of these harmful creatures from one lake or stream to another.

ROUND GOBIES are bottom-dwelling fish that compete with native bottom-dwellers, like sculpins and log perch. They're also aggressive egg predators – feeding on the eggs of other fish, such as smallmouth bass, and thus contributing to the potential decline of many valuable sport fish populations.



Emily Damstra

EURASIAN RUFFE are a member of the perch family but a lot less desirable! These harmful fish compete with yellow perch and other native species for zooplankton, the tiny aquatic animals near the base of the food

web. Ruffe reproduce quickly and at very high rates and, because they're slimy and spiny, do not make good food for native fish.



Emily Damstra

ZEBRA AND QUAGGA MUSSELS feed extensively on algae, thereby disrupting the delicate balance of the entire aquatic ecosystem.

Just because they make the water clearer by eating algae doesn't mean they're good for the water! By eating algae, invasive mussels cause all sorts of problems all along the food chain.

Clearer water may force light-sensitive fish, like salmon and

walleye, into deeper waters to find shelter from the sun. Because the sun penetrates deeper into the water, aquatic plants can take root in larger areas. This increased vegetation helps small fish survive by giving them more places to hide, but at the same time makes it more difficult for large predators to find food. Thicker weed growth also causes problems for boaters.

Perhaps the most important thing to know about invasive mussels is that they can spread most easily when they're in their larval stage. That's when they're practically invisible to the naked eye and can go unnoticed on your boat or bait bucket.

Invasive aquatic plants, like **PURPLE LOOSESTRIFE** and **EURASIAN WATERMILFOIL**, also endanger our waters. These plants literally smother native plants and can take over waterways in a matter of months. Milfoil often piles up on beaches and frequently gets wrapped around propellers,



Quagga mussel

Zebra mussel

making it almost impossible to navigate through certain channels. It's important to clean weeds like Eurasian watermilfoil off your boat, because they can produce a whole new colony from a single strand barely two inches long.



Wendy Crowell

Eurasian watermilfoil

You can help stop the invasion.

You can help by taking the following steps every time you take your boat out of the water, and every time you pack up your tackle box and head for home.

- **INSPECT** your boat and equipment and remove all aquatic plants from your trailer, propeller, anchor—anywhere they might be.
- **DRAIN** all the water from the boat, motor, bilge, live wells and bait wells.
- **DISPOSE** of leftover bait in a trash receptacle, not in the water.
- **RINSE** your boat and all of your fishing equipment with hot (104 degrees or higher) tap water, OR thoroughly dry your boat and your fishing equipment—leave them outside in the sun for five days—before going to new waters.

Help protect our waters for our children and grandchildren. Take these simple steps to ensure that our scenic and bountiful waters continue to be healthy for generations to come.



Dave Brenner

Purple loosestrife